

TYLER HASMAN

tylerhasman.com

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EXPERIENCE

- ❖ **Programmer on Squad, Offworld Industries** May 2022 — Present
Vancouver, BC
 - **Skills:** C, C++, Unreal Engine 4, Blueprints, Perforce, TeamCity, JIRA
 - Working on Squad, a strategic online first-person shooter created in Unreal Engine 4
 - Overhauled gun audio system to be more responsive and accurate
 - Upgraded Squad from Unreal Engine 4.23 to 4.27
 - Improved vehicle pushing system to allow stuck vehicles to be recovered
 - Implemented props into the new Emote system (i.e. spawning a soccer ball during an emote)
- ❖ **Computer Graphics Teaching Assistant, University of British Columbia** Sep 2021 — Apr 2022
Vancouver, BC
 - **Skills:** Javascript, GLSL, Linear Algebra
 - Explained linear algebra and rendering related concepts to students -- in particular, transformation frames, OpenGL and the rendering pipeline
 - Created assignments which challenged students to create GLSL shaders and implement lighting techniques

EDUCATION

- ❖ **BSc. in Computer Science** 2019 — Dec 2023
University of British Columbia, 2023
Vancouver, BC

PROJECTS

- ❖ **Wizards - Programming, Game Design and Marketing**
https://playwizards.net
 - **Skills:** Java, GLSL/HLSL, Shaders, Networking, Redis, SQL
 - 40,000+ unique players and 370+ positive reviews as of March 2023
 - Over 200,000 matches five minutes or longer played in 2021
 - Monetized through cosmetics sold on the Steam Store. Met initial goal of 1000\$ in the first month
 - Game servers are hosted for players and are automatically created to meet player demand. Network code supports spectators and replays
- ❖ **Tyler's MMO - Programming, Game Design, Level Editor**
https://youtu.be/nWNxCfB-gg
 - **Skills:** Java, OpenGL, GLSL, Graphics Pipeline, Physics, AI, Networking
 - Online-multiplayer WoW Classic-like MMO engine
 - Uses game data separate from engine to allow for designers to easily edit content
 - Custom level editor which supports infinite terrain using asynchronous streaming
 - Mesh collision support using VHACD to simplify 3D models
 - Navigation Mesh is generated ahead of time so NPCs can traverse terrain
 - Cascaded shadow maps which allow high performance, excellent shadows at any distance
 - Currently has about 2 hours of content which takes the player from levels 1 to 10
- ❖ **Voxel Engine - Programming**
github.com/tylerhasman/CubeEngine
 - **Skills:** C++, OpenGL
 - Voxel engine written in C++ with OpenGL
 - Terrain is infinitely generated using Perlin Noise and Voronoi Diagrams
 - Supports SSAO using Deferred Rendering technique
 - Originally written in Java, ported to C++